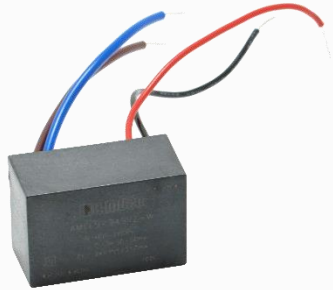


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AMEL5-VZ



Encapsulated

The new AMEL5-VZ is a brand-new AC/DC converter that offers much greater cost effectiveness due to material normalization and production automation also leading to improved reliability and performance. Offering a commercial input voltage range of 85-264VAC and an output voltage range from 3.3-24V, this series will offer many benefits to your new system design.

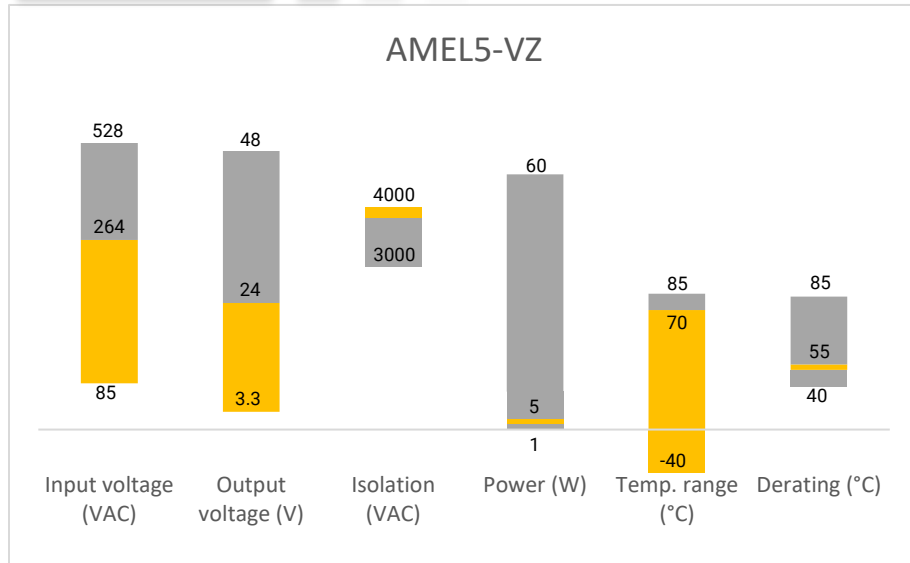
This new series offers great operating temperatures, from -40°C to 70°C with full power up to 55°C. It also features an isolation of 4000VAC for improved reliability and system safety. Furthermore, a higher MTBF of 300,000h, output short circuit protection (OSCP), output over-current protection (OCP) and an output over-voltage protection (OVP) come standard with the series.

The AMEL5-VZ is perfect for street lighting controls, grid power, LED, instrumentation, industrial controls, communication and civil applications.

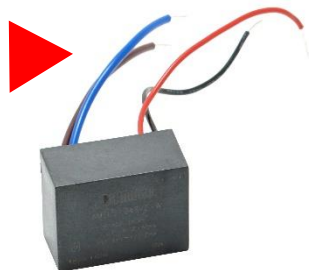
Features

- Universal Input: 85 - 264VAC/100 - 370VDC
- Operating Temp: -40 °C to +70 °C
- High isolation voltage: 4000VAC
- Low ripple & noise, 50mV(p-p), typ.
- Wire output terminal
- Output short circuit, over-current, over-voltage protection
- Regulated Output

Summary



Training



Product Training Video
(click to open)



Press Release

Coming Soon!

Application Notes

Applications



Power Grid



Industrial



Telecom



Instrumentation

Models & Specifications

Single Output						
Model	Input Voltage (VAC/Hz)	Input Voltage (VDC)	Output Voltage (V)	Output Current max (A)	Maximum capacitive Load (μF)	Efficiency (%)
						230 VAC
AMEL5-3.3SVZ	85-264/47-63	100-370	3.3	1	5000	68
AMEL5-5SVZ	85-264/47-63	100-370	5	1	5000	75
AMEL5-9SVZ	85-264/47-63	100-370	9	0.56	1200	77
AMEL5-12SVZ	85-264/47-63	100-370	12	0.42	1200	79
AMEL5-15SVZ	85-264/47-63	100-370	15	0.33	1000	79
AMEL5-24SVZ	85-264/47-63	100-370	24	0.21	330	81

Add suffix “-W” for optional wire terminal.

Input Specifications					
Parameters	Conditions	Minimum	Typical	Maximum	Units
Current (full load)	115 VAC			130	mA
	230 VAC			70	mA
Inrush current <2ms (cold start)	115 VAC		10		A
	230 VAC		20		A
External fuse	Recommended slow blow type		1		A
Leakage Current	230VAC/50Hz		0.1		mA(rms)
Input Voltage	VAC	85		264	V
	VDC	100		370	V

Output Specifications				
Parameters	Conditions	Typical	Maximum	Units
Voltage accuracy	3.3V output	±3		%
	Others	±2		%
Line regulation	Full Load	±0.5		%
Load regulation	0%-100% load	±1		%
Ripple & Noise*	20MHz Bandwidth, others	50	100	mV p-p
Hold-up time (minimum)	115VAC	5		ms
	230VAC	50		ms

*Ripple and Noise are measured at 20MHz bandwidth by using the referenced Application circuit.

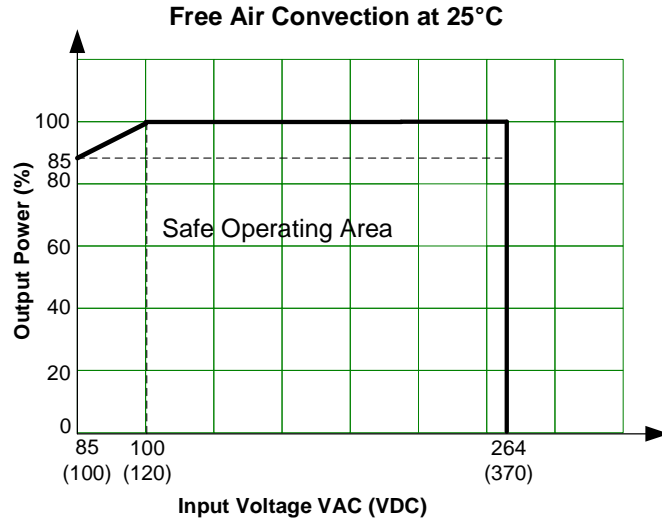
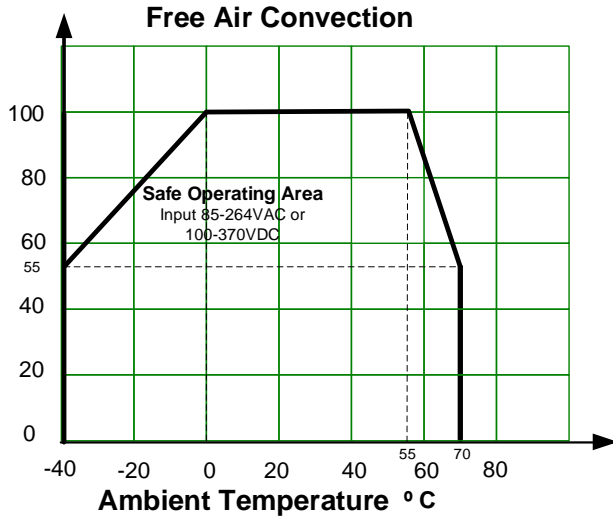
Isolation Specifications				
Parameters	Conditions	Typical	Rated	Units
Tested I/O voltage	60 sec	4000		VAC

General Specifications				
Parameters	Conditions	Typical	Maximum	Units
Switching frequency		100		KHz
Protection class	Class II			
Over Current protection	Auto recovery	≥120		% of Iout
Over voltage protection	Zener diode clamp			
Short circuit protection	Continuous, hiccup, Auto recovery			
Operating temperature	See derating curve	-40 to +70°C		°C
Storage temperature		-40 to +105		°C
Temperature coefficient		0.02		% /°C
Cooling	Free air convection			
Case material	Plastic (flammability to UL 94V-0)			
Weight		25		g
Dimensions (L x W x H)		1.46 x 0.96 x 0.71 (37 x 24.5 x 18mm)		
MTBF	> 300,000 hrs (MIL-HDBK -217F, t=+25°C)/Full Load			

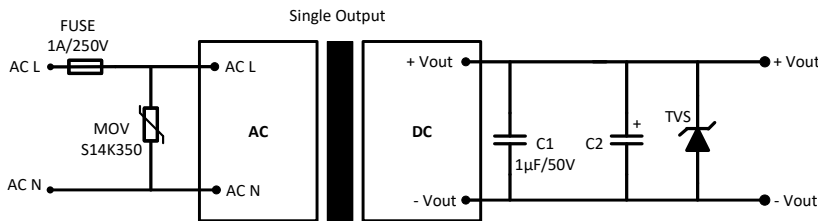
NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

Safety Specifications		
Parameters		
Agency approvals	UL62368	
Standards	IEC/EN/UL 62368-1	
	EMI - Conducted and radiated emission	EN55032, class A EN55032, class B with EMC recommended circuit
	Electrostatic Discharge Immunity	IEC 61000-4-2, Contact: ±6KV/Air: ±8KV, Criteria B
	RF, Electromagnetic Field Immunity	IEC 61000-4-3, 10V/m, Criteria A
	Electrical Fast Transient/Burst Immunity	IEC 61000-4-4, ±2KV, Criteria B IEC 61000-4-4, ±4KV, Criteria B with EMC recommended circuit
	Surge Immunity	IEC 61000-4-5, ±1KV Criteria B IEC 61000-4-5, ±2KV, Criteria B with EMC recommended circuit
	RF, Conducted Disturbance Immunity	IEC 61000-4-6, 10Vrms, Criteria A
	Voltage dips, Short Interruptions Immunity	IEC 61000-4-11, 0-70%, Criteria B

Derating



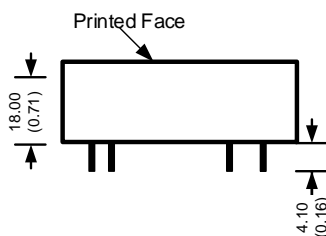
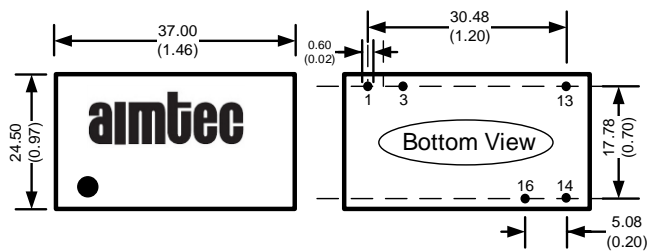
Typical Application Circuit



Pin Output Specifications

Model	C2	TVS
3.3 & 5 Vout	150 µF / 35V	7V
9Vout	120 µF / 35V	12V
12 & 15 Vout	120 µF / 35V	20V
24 Vout	68 µF / 35V	30V

Dimensions

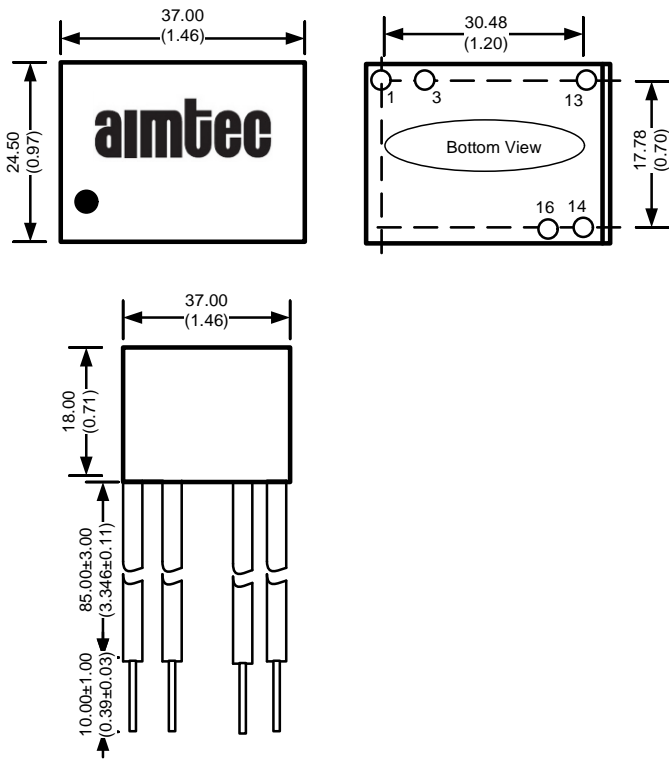


All dimensions are typical: millimeters (inches)
Pin Diameter: 0.60 ± 0.10 (0.02 ± 0.004)
Pin Pitch Tolerance: ± 0.35 (±0.014)
Case Tolerance: ± 0.5 (±0.02)

Pin Output Specifications

Pin	Single
1	AC Input (L)
3	AC Input (N)
13	NC
14	-V Output
16	+V Output

Dimensions with -W options

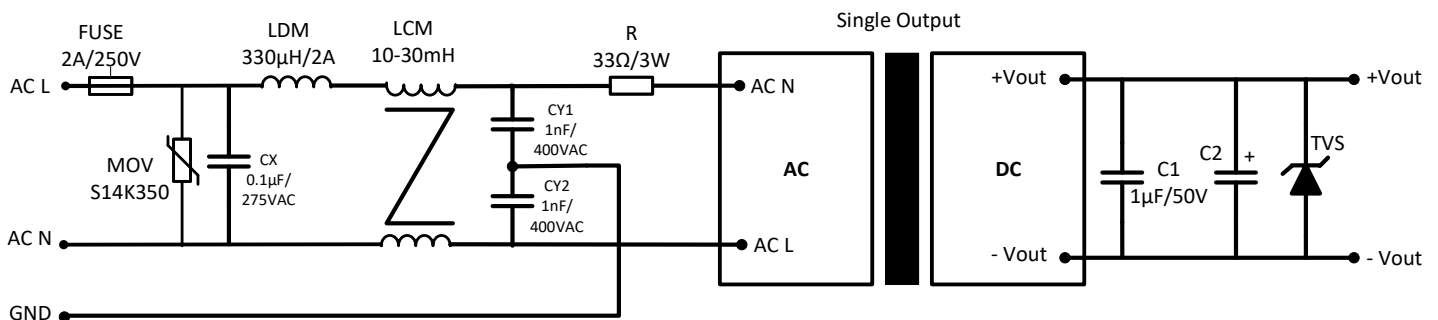


Wire is UL 1015/CSATEM listed #22AWG
Wire Tolerance: $\pm 0.30[\pm 0.012]$

Pin Output Specifications

Pin	Single
1 brown	AC Input (L)
3 blue	AC Input (N)
13	NC
14 black	-V Output
16 red	+V Output

EMC Recommended Circuit



Model	C2	TVS
3.3 & 5 Vout	150 µF / 35V	7V
9Vout	120 µF / 35V	12V
12 & 15 Vout	120 µF / 35V	20V
24 Vout	68 µF / 35V	30V

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